

Notes on New Zealand Petrels; With Descriptions of New Forms and some New Records.

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From a fuller review of New Zealand petrels now in preparation the following records of new forms, extra-limital records, and noteworthy occurrences, have been selected.

Oceanites oceanicus (Kuhl).

On 31st May, 1933, Mr. R. G. Gritton, of Gisborne, picked up and sent to the Auckland Museum an adult female bird of this species. Exceptionally heavy south-easterly weather had been experienced for some days previously. The bird was in a starved condition, but in good feather, with no sign of moult. Its measurements were: Wing 136, tail 65, tarsus 33, toe 28, culmen 12 mm.

Oceanodroma leucorhoa (Vieillot).

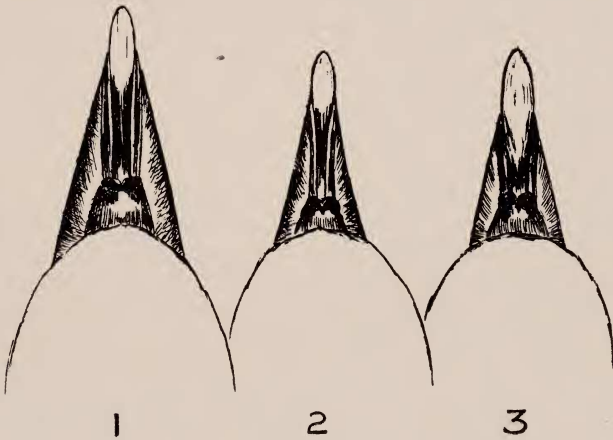
A specimen of this northern hemisphere bird was picked up by the writer on the Muriwai Beach, on the west coast, near Auckland, in August, 1922, and the skin, although damaged by sand lice, was preserved. The bird, a male, was emaciated and its plumage much weather-beaten, rendering it altogether a poor specimen for comparison. Its measurements, which are in millimetres, wing 160, tail 82, fork of tail 12, tarsus 23.5, middle toe and claw 25, exposed culmen 15, do not place it conclusively in any of the subspecific groups described by Oberholser (1919). Excluding the wing measurement, it agrees fairly well with his description of the characters of *O. leucorhoa kaedingi* Anthony, especially in the comparatively shallow tail fork (12 mm.).

Halobaena caerulea (Gmelin).

Of the two specimens in the Auckland Museum, Oliver (1930) has recorded the locality of one, viz., Tauranga. This bird, a male, was picked up there by the late Dr. C. E. R. Bucknill in November, 1924. Its measurements are: Wing 212, tail 90, tarsus 30, middle toe and claw 39, bill 26 mm. On 13th May, 1933, another male bird was picked up at Muriwai Beach, but so damaged by the attacks of gulls that only the head and wings have been preserved. The wing is 210 and the bill 26.5 mm. long. These two birds show no marked difference in size or colours of soft parts from a series from Kerguelen, with which I have been able to compare them. The bill of the second specimen, when fresh, was olive black, with a pale mauve blue patch along the lower edge of the lower mandible, at the base.

***Pachyptila* (*Heteroprion*) cf. *belcheri* Mathews.**

Mathews (1912, p. 224) has cleared up a difficult problem in the classification of prions by distinguishing his *Heteroprion belcheri* from the related *H. desolatus*, but by making his specific distinction rest upon the ratio of length to width of the bill of one specimen he has created a taxonomic problem for later workers. These narrow billed birds of the sub-genus *Heteroprion* are undoubtedly of wide distribution and fall into several recognisable breeding races, but very few of them conform strictly to the formula "bill width less than a third of its length," except in immature birds. In a reference subsequent to his original description Mathews (Mathews and Iredale, 1921, p. 41) describes under *H. belcheri* adult birds from West Australia "with bills 25 mm. long by 10 mm. wide," and another adult from the Falkland Islands with the same measurements. None of these conform to the formula in the type description. The true relationship of these geographical forms is undoubtedly sub-specific, but it is impossible to attach them to a species which depends on such a strict bill ratio.



TEXT FIGURE.

- Fig. 1. *Pachyptila desolata desolata* (Gmelin). Adult male (Kerguelen).
 Fig. 2. *Pachyptila* cf. *belcheri* (Mathews). Adult male (Auck. Mus., 213-1).
 Fig. 3. *Pachyptila turtur* (Kuhl). Adult male (Muriwai Beach, N.Z.).

Particulars are here given of three specimens in the collection of the Auckland Museum, all storm-driven birds from the Tasman Sea picked up on the west coast during the winter.

No.	Sex.	Locality.	Date.	Wing.	Tail.	Tarsus.	Mid-toe and Claw.	Length Bill.	Width Bill.
213.1	♂	Muriwai Beach	1/8/32	176	80	28	36	24	10 mm.
213.2	♂ immat. albino	Kaipara Harb.	13/5/33	170	75	30	38	23.5	9.2 mm.
213.3	♂	Onehunga	1918	175	83	30	37	25	10 mm.

These birds are all smaller than the typical *P. belcheri*, but they agree in the form of the bill with its relatively weak nail. The actual measurements of bill length and width of No. 213.1 are the same as those of the specimen of *P. turtur* figured for comparison (Text figure 3), but the relatively stronger nail of *P. turtur* distinguish it in plan and profile. The larger skull in *P. belcheri* gives the head a different appearance in life, and its plumage colouration, with the darker crown, is that of the *P. desolatus* group.

No. 213.2 is a pure albino, with pink eyes and dull pink bill and feet.

***Pachyptila turtur fallai* Oliver.**

Pachyptila turtur fallai Oliver, N.Z. Birds, p. 114, 1930.

Heteroprion belcheri fallai Mathews, Ibis, Jan., 1931, p. 44.

The type of this subspecies, in the Auckland Museum collection, is an immature bird, as shown by its bill characters and two shreds of nestling down still adhering to the flanks. However an adult referable to this form was collected by Mr. E. F. Stead at sea off Stewart Island in September, 1930. This bird is a female with the following measurements: Wing 173, tail 88, tarsus 29.5, mid-toe and claw 36.5, length of bill 21.5, width of bill 9 mm.

Mathews (1931, p. 44), without examining the type, has concluded that "this form corresponds exactly to *belcheri*," except for a somewhat shorter bill. Both the immature type and the adult here described have the bill structure of the *P. turtur* group, and not the elongate, weak-nailed structure of *belcheri*.

***Puffinus tenuirostris* (Temminck).**

To the scattered records of the occurrence of this species in New Zealand waters may be added the following: Two specimens were blown ashore at Cheltenham Beach, Auckland, during a north-easterly gale on 16th December, 1931. One bird, a male, was picked up by Major Allan Brooks, of British Columbia, who was on a visit to Auckland. The second specimen, also a male, now in the collection of the Auckland Museum, has the underparts distinctly paler than the upper parts, with an ashy grey chin and throat and under wing coverts washed with greyish white at their tips. Its measurements are: Wing 275, tail 82, tarsus 48, middle toe and claw 61, bill 34 mm. The testes of both were much reduced, a condition noted by Murphy (1930, p. 9) in two other males of this species taken in a neighbouring locality at the same time of year.

Another specimen was picked up by the writer in Spirits Bay, in the extreme north of New Zealand, in February, 1932, but was preserved only as a skeleton.

***Pterodroma melanopus* (Gmelin).**

Among a number of petrel remains found by the writer on Muriwai Beach in January, 1921, was a bird of which measurements, sketch of head and colour notes were made before preserving it as a skeleton. It was regarded at the time as an

abnormal specimen of *Pterodroma macroptera* (Smith) and overlooked. Further consideration, however, leads to the conclusion that the bird is a specimen of *P. melanopus*. The sketch of the head agrees with the specimen figured by Mathews (1912, Pl. 84) and the notes made at the time state that the plumage was blackish brown except for the mottled face and whitish underwing, feet black. Total length 420, wing 309, tarsus 38, toe 60, bill 42 mm.

***Pterodroma neglecta* (Schlegel).**

A dead specimen, quite fresh, but much damaged by gulls, was picked up on Muriwai Beach by the writer on 29th November, 1932, and has been preserved in spirit. It agrees exactly in plumage and measurements with the bird described by Oliver (1930, p. 138) as a specimen of average intermediate colouration. There appear to be no previous records of the species from the New Zealand mainland.

***Pterodroma pycrofti* sp. nov. (Plate 31, figs. 1 and 3.)**

Specific characters.—Similar to *Pterodroma cookii* (Gray), but with a much shorter bill, shorter wing, and darker colouration of the upper parts.

Description: Type, adult male, No. 200.2, Auckland Museum; Taranga (Hen Island), N.Z., 27th January 1932, collected by R. A. Falla. Upper parts generally from deep to dark neutral grey (Ridgway's Standards) according to wear; darkest patches on nape and rump, but neither of these conspicuous; edges of central forehead feathers white, but subject to wear; anterior part of lores and a line extending thence above and just past the eye, white; except for a thin white infraorbital stripe the feathers in front of the eye are darkly mottled, and those below are almost black; underparts, including flanks and axillaries, pure white; wings blackish brown, with faint grey bloom on secondaries; the inner vanes of the primaries are white basally on their inner half, the white area not sharply marked as in *P. cookii*, but merging more diffusely with the dark, as in *P. leucoptera*; wing lining, white, with anterior margin mottled; central rectrices dark neutral grey, darker terminally with wear, and white at extreme base; basal white is more extensive on each succeeding pair until the two outer pairs are largely white with grey patches on outer webs (four outer pairs are usually mainly white in *P. cookii*); under tail coverts, white, but shorter than in *P. cookii*, reaching only to within 22 mm. of tip of tail; bill, black; irides dark brown; tarsi and toes pale blue, webs flesh colour.

A male (the type specimen) and a female were found together in a new burrow on Taranga Island on the above date. Both were in breeding condition, with enlarged gonads and no food in the stomachs. On this date, on the neighbouring Little Barrier Island, *P. cookii* already had well-grown nestlings in the burrows, so that a considerable difference in nesting season is indicated if our Taranga Island pair are representative. Other new burrows on the same slope appeared to be unfinished and were empty. Mr. A. T. Pycroft revisited the spot in April, 1933, and unfortunately found the colony deserted.

There are probably in collections a number of specimens referable to this form. Several in the Dominion Museum, Wellington, appear to belong to it, but are without data. Another in the Auckland Museum, with data, "Cape Maria Van Diemen, 1896, Mr. Rayner," agrees with the Taranga birds, except in having a few faint flecks of grey on the axillaries and longer under tail coverts. The female bird collected with the type specimen is exactly similar in plumage and not appreciably different in size.

The species is distinguishable in size, more slender bill, colour of back and colour of feet from *P. leucoptera* (Gould), specimens of which have been examined by courtesy of the Trustees of the Australian Museum, Sydney. It more resembles *P. cookii*, and, according to the key by which Murphy (1929, p. 2) distinguishes forms of *P. leucoptera* from forms of *P. cookii*, could be regarded as a subspecies of the latter. This may prove on the examination of more material to indicate the facts of relationship more accurately, but it is in the meantime perhaps unwarranted to run counter to current notions of subspecies as geographic units by recognising two subspecies of the same species as nesting in one small group of islands.

The specific name is chosen in recognition of long service to ornithology of Mr. A. T. Pycroft, of Auckland, who also organised the expedition on which the birds were discovered.

Comparative measurements of the material examined:—

PTERODROMA COOKII.

No. and Sex.	Locality and Date.	Middle				
		Wing.	Tail.	Tarsus.	Toe.	Culmen.
Auck. Mus. 148.1 ♀	"Hen & Chickens Is., 1880"	240	95	30	38	28.5
Auck. Mus. 148.3 immat.	Titirangi, 2/4/28.	235	95	30	36	27.5
Dom. Mus. 1813 ♂	Hauraki Gulf, 18/1/26	230	88	29.5	37	27
Dom. Mus. ♂	Hauraki Gulf, 4/2/32	232	90	27.5	39	25.5

PTERODROMA LEUCOPTERA.

No. and Sex.	Locality and Date.	Middle				
		Wing.	Tail.	Tarsus.	Toe.	Culmen.
Aust. Mus. 016503 ♂	Cabbage Tree I., N.S.W.	221	92	28	37	25
Aust. Mus. 030240 ♀	Cabbage Tree I., N.S.W.	233	94	29	38	26.5

PTERODROMA PYCROFTI.

No. and Sex.	Locality and Date.	Middle				
		Wing.	Tail.	Tarsus.	Toe.	Culmen.
Auck. Mus. 200.2 ♂	Hen Island, 27/1/32	215	88	28	33.5	23.5
Auck. Mus. 200.3 ♀	Hen Island, 27/1/32	217	86	27	34.5	23
Auck. Mus. 200.1	C. Maria van Diemen, 1896	218	94	25	35	24.5

***Pterodroma cookii* (Gray).**

An immature specimen (Pl. 31, fig. 4) was picked up at Titirangi, near Auckland, by Master Neil Jones, on 2nd April, 1928, on which date it could hardly have been more than a month away from the nest. The first fresh plumage succeeding the down does not appear to have been described, and it is sufficiently distinct from the average adult condition to merit description.

The difference is due entirely to the fresh pale grey bloom of the upper plumage and the pronounced white edging to the feathers. This is so marked on the forehead that the dark bases of the feathers are only visible as scattered flecks. The scalation due to white edging is prominent on crown nape and sides of head, less noticeable on the hind neck, and prominent again on the mantle and the whole of the back down to the dark rump patch, where it is represented by very slight white tipping of the dark feathers. The upper surface of the wings is dark blackish brown, with conspicuous scalation of whitish on the secondaries and the greater and median coverts; lesser wing coverts are dark brown edged with grey. Measurements are: Wing 236, tail 94, tarsus 30, middle toe with claw 36, bill 27 mm. Colours of soft parts have not been noted when fresh; the dried feet are similar to those of adult *P. cookii*.

The distinctive characters of this first year's plumage are exactly those said to distinguish *Pterodroma cookii orientalis* Murphy (1929, p. 5) from *P. c. cookii*. While they are apparently larger, it still remains to be shown, therefore, that *breeding* specimens of the eastern Pacific form are distinguished by pronounced scalation of the dorsal plumage from the New Zealand form.

***Thalassarche chrysostoma* (Forster).**

This species is apparently more plentiful in New Zealand seas than the available records would indicate. Specimens are washed ashore every year on the west coast near Auckland, and several complete and partial skeletons have been obtained in this way. From an adult male picked up at Muriwai Beach on 5th December, 1932, the following colour notes were taken in the flesh: Latericorn and upper half of mandibles, olive black; lower edge of mandibles and culminicorn to near tip yellow; tip orange; membrane from base of mandible to gape, orange; feet, fleshy white, bluish on the joints. The head plumage was all grey, lightest on forehead, crown, and throat; in front of the eye a dark patch; infra-orbital strip white. Wing 510, tail 200, tarsus 80, toe 125, bill 115 mm.

An immature bird (Pl. 32, fig. 1) found in the same locality on 12th May, 1933, had an olive black bill with a light horn-coloured strip along the lower edge of the mandibles. Forehead and chin white, the remainder of the head patchy with brown-grey and white. A renewal of plumage was in progress, and wing and tail measurements therefore not significant; bill 110 mm. long.

Thalassarche cauta steadi subsp. nov. (Plate 32, fig. 2.)

Subspecific characters: Differs from *T. cauta cauta* (Gould) in its bright and more uniformly coloured bill and average greater size. Its size, white throat and neck, and white on the inner web of the primaries distinguish it from both *T. cauta salvini* (Rothschild) and *T. cauta cremita* Murphy.

Description: Type, adult male, No. 153.3, Auckland Museum; Foveaux Strait, N.Z., December, 1931, collected by E. F. Stead. Upper back slate grey, with white bases to the feathers; scapulars and tail ash-brown, becoming brown with exposure and abrasion; wing coverts dark brown with white bases; primary quills dark brown with white shafts and inner web white except along shaft and at tip; the eyebrow and a patch in front of the eye form a continuous dark ash grey line reaching the bill at the apex of the latericorn, and separating the white of the forehead and crown from the pale ash grey cheek; a patch behind the eye, and ear coverts, washed with pale plumbeous grey; head and neck, all underparts, including axillaries and under-tail coverts, white; bill cream yellow, unguis and extremity of mandible bright yellow; a membranous belt of black behind the nostrils separates the latericorn from the culminicorn, and the latter from the frontal feathers; at the base of the mandible a belt of orange extends back towards the gape and is separated from the feathers by a narrow belt of black; feet bluish white; iris dark brown. Wing 610, tail 252, tarsus 90, middle toe and claw 142, bill 140 mm.

A female collected at the same locality in the following season has a much shorter bill (125 mm.) and less white on the inner web of the primaries.

This is the commonest mollymawk in the seas around Stewart Island during the summer months. Its distinctness from described forms was recognised by Mr. E. F. Stead, who collected the specimens on which the above description is based, and in recognition of whose valuable contribution to our knowledge of southern seabirds the subspecific name has been chosen.

Associated at sea with these yellow-billed birds are a number of others, averaging slightly smaller in size, having pale cream bills with a dark sub-terminal patch on the mandible. In these the whole neck all round is grey, very pale on the crown and throat, and the inner web of the primaries is dark. These characters agree with the adult condition of *T. cauta salvini* breeding on Bounty Island, except for the colour of the bill. The condition of the testes of several of these birds collected by Mr. Stead in Foveaux Strait indicate that they may, however, be immature examples of *T. cauta steadi*. The breeding place of this form is unknown, but it may be pointed out that breeding colonies of some form of *T. cauta* are known to exist on the Snares Islands and at Disappointment Island, in the Auckland Islands, but have not yet been correctly identified.

Thalassarche chlororhynchus (Gmelin).

A solitary New Zealand record of this species is given by Oliver (1930, p. 164) and recent observations by the writer indicate that it occurs in New Zealand seas, at any rate in the extreme north, at certain seasons. During August, 1932, the writer made observations during a trawling cruise in the R.R.S. Discovery II., and the following occurrences were noted:—

16th August, 1932, off North Cape, N.Z., two adult specimens accompanying the ship and seen at very close range.

17th August, off Three Kings Islands, five adults and one immature bird in the morning, increasing to eight birds in the afternoon.

T. melanophrys and an odd *T. cauta* were about at the same time. *T. chlororhynchus* was not again noticed as the ship proceeded south to Wellington, nor has the writer noted it when making observations from passenger steamers between Auckland and Sydney in April (two trips), or October (one trip).

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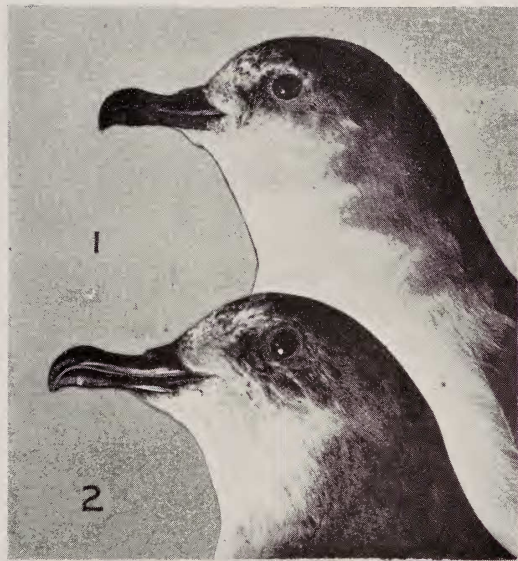
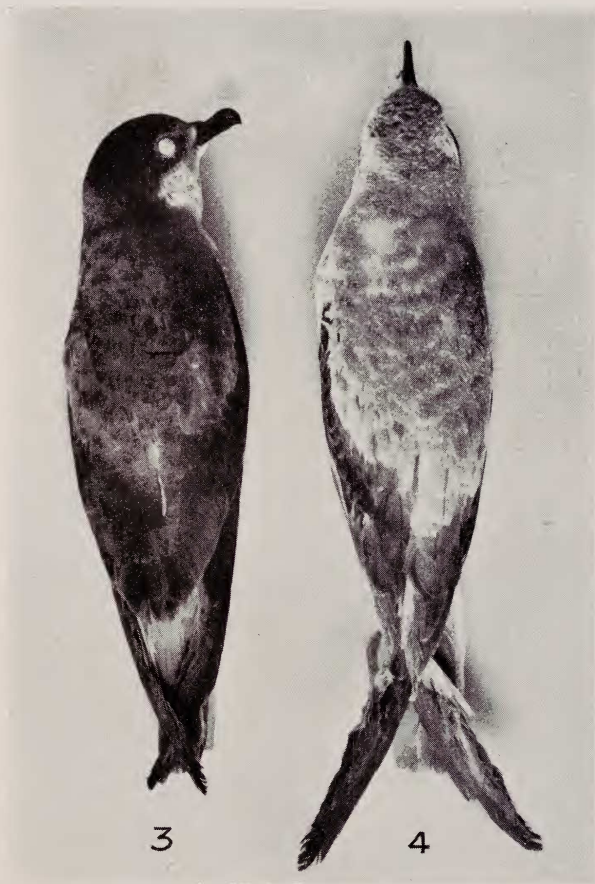


Fig. 1. *Pterodroma pycrofti* sp. nov. Adult male (type).

Fig. 2. *Pterodroma cookii* (Gray). Adult female (Auck. Mus., 148-1).

Fig. 3. *Pterodroma pycrofti* sp. nov. Adult female (paratype).

Fig. 4. *Pterodroma cookii* (Gray). Immature.



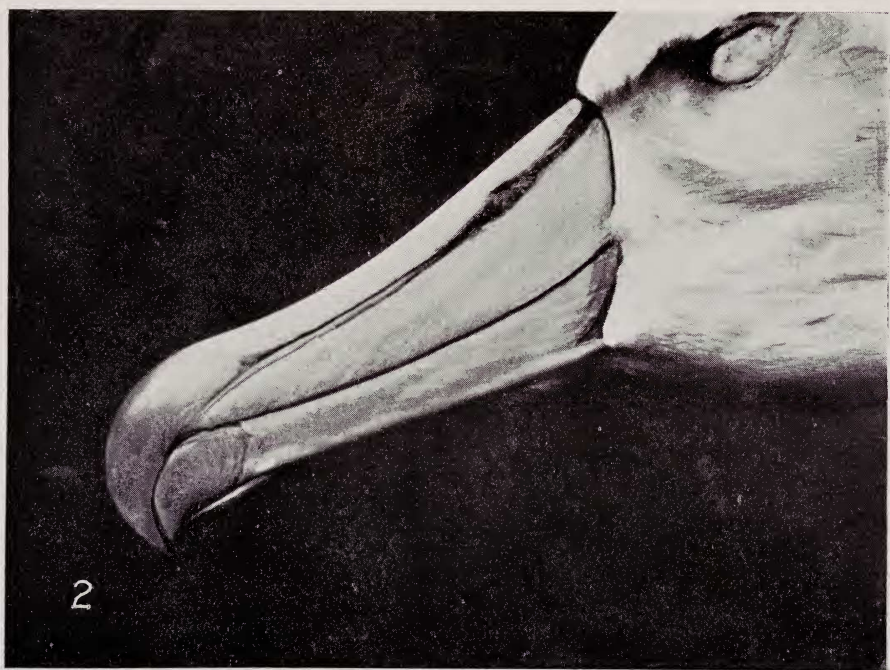
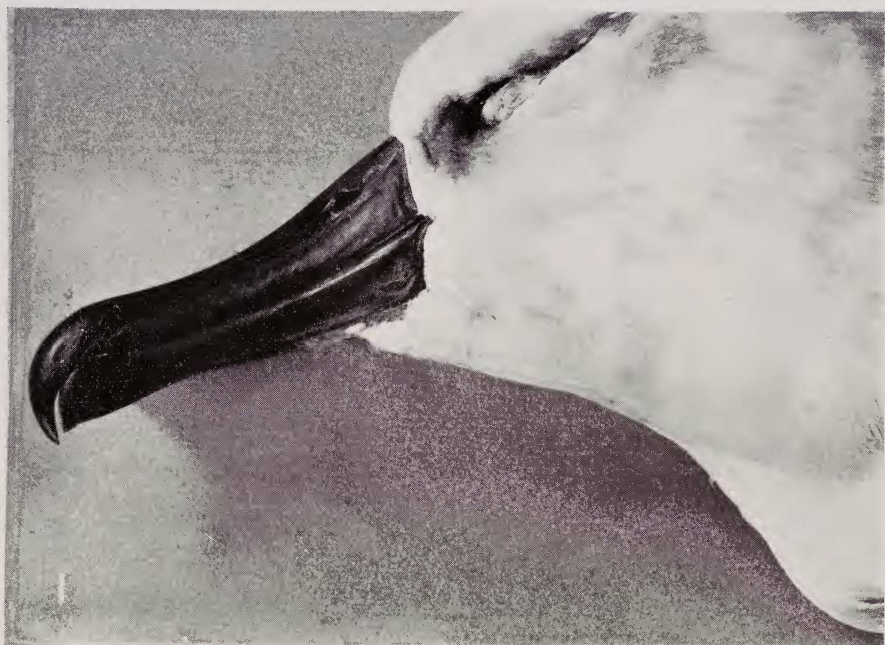


Fig. 1. *Thalassarche chrysostoma* (Forster). Immature.

Fig. 2. *Thalassarche canta steadii* subsp. nov. Adult male (type).